The Lepidopterological Society of Japan

蝶と蛾 *Tyô to Ga* **44** (4): 221-225, February 1994

Discovery of a chalcosiine moth of the genus *Achelura* (Lepidoptera, Zygaenidae) from Taiwan

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Abstract A new species, *Achelura sanguifasciata*, is described from Taiwan with brief notes on the biology, and is considered to be closely related to *Achelura bifasciata* from the Himalayas.

Key words Lepidoptera, Zygaenidae, *Achelura sanguifasciata* sp. nov., Taiwan, taxonomy.

The genus *Achelura* was established by Kirby (1892) as the objective replacement name for the monotypic genus *Chelura* Hope, 1841, type species: *Chelura bifasciata* Hope, 1841, a junior homonym of *Chelura* Philippi, 1839, Crastacea. After Jordan ([1907] 1908), the genus *Achelura* had long been synonymized with the genus *Agalope* Walker, 1854, by many authors (see Owada, 1992). Recently, Inoue (1987) claimed that *Achelura* is different from *Agalope* in the genitalic characters. In the revisional work on the genus *Agalope* from Taiwan, Owada (1992) upholded Inoue's view, illustrated the genitalia of female '*Achelura*' *glacialis* (Moore, 1872), and of male and female *Achelura bifasciata* and *Elcysma westwoodii* (Vollenhoven, 1863), and discussed their relationship, though he did not come to the conclusion. In the genus *Achelura*, at least the following species can be included: *A. bifasciata* (Hope), *A. hemileuca* (Rothschild, 1904), and *A. javana* Aurivillius, 1894.

On shaky ground of an information that a large zygaenid moth allied to *A. bifasciata* had been collected in Taiwan, I made a collecting trip to Taiwan in September, 1993. Fortunately I was able to obtain a male specimen of the moth through Mr. C. Lou, Puli, who gave me information on the collecting site and the period of occurrence, *i.e.*, from October to November on Mt. Howangshan, central Taiwan. Unfortunately, the road to Mt. Howangshan was destroyed seriously, I was not able to get there and to collect the moth. Just after this trip, Mr Y. Kishida and I found a longer series of the specimens with a female, which might be derived from the same source, in Tokyo, and Mr Lou sent me more specimens collected in 1993. At the first glance, the moth is quite different from *A. bifasciata* in coloration of the basal striae on the forewing and in the exposed male terminalia. Therefore, I dissected the genitalia, and found that it is doubtlessly different species. In the following lines, I will describe this beautiful and huge zygaenid moth as a new species.

Before going further, I wish to express my sincere thanks to Dr M. Owada, National Science Museum, Tokyo, for his constant guidance and critical reading of the manuscript of this paper, to Mr K. Suzuki, Tokyo, for his kind aid in the field survey, to Mr Y. Kishida, Tokyo, for his assistance in obtaining specimens, to Mr T. Inomata, Tokyo, for the fine colour photograph, and to Mr C. Lou, Puli, for his valuable information and material.

Achelura sanguifasciata sp. nov.

Male (Fig. 1). Length of forewing: 39-43 mm. Antenna black, bipectinate. Head, tho-

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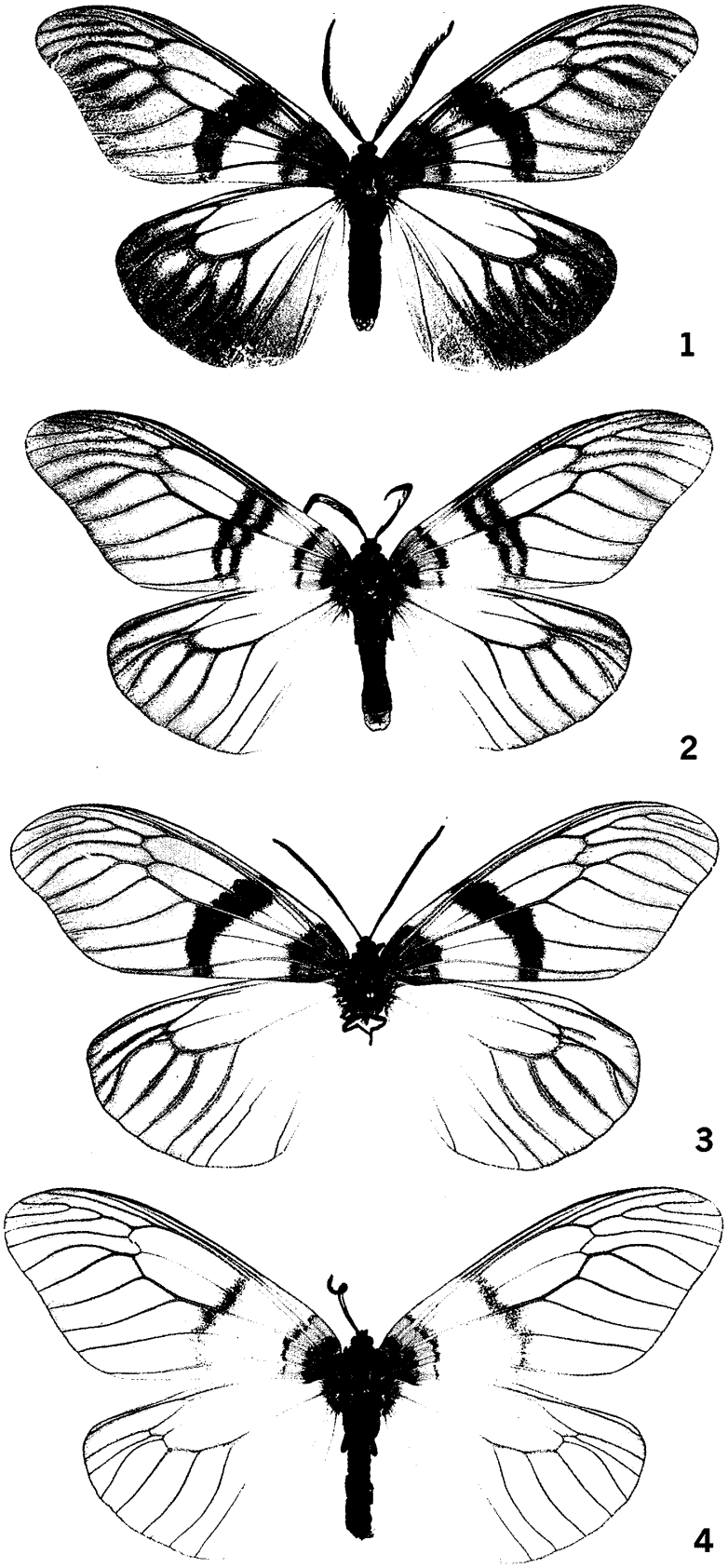

Figs 1-4. *Achelura* spp. 1. *A. sanguifasciata* sp. n., ♂, holotype. 2. *A. bifasciata* (Hope), ♂, Nepal. 3. *A. sanguifasciata* sp. n., ♀, paratype. 4. *A. bifasciata* (Hope), ♀, Nepal.

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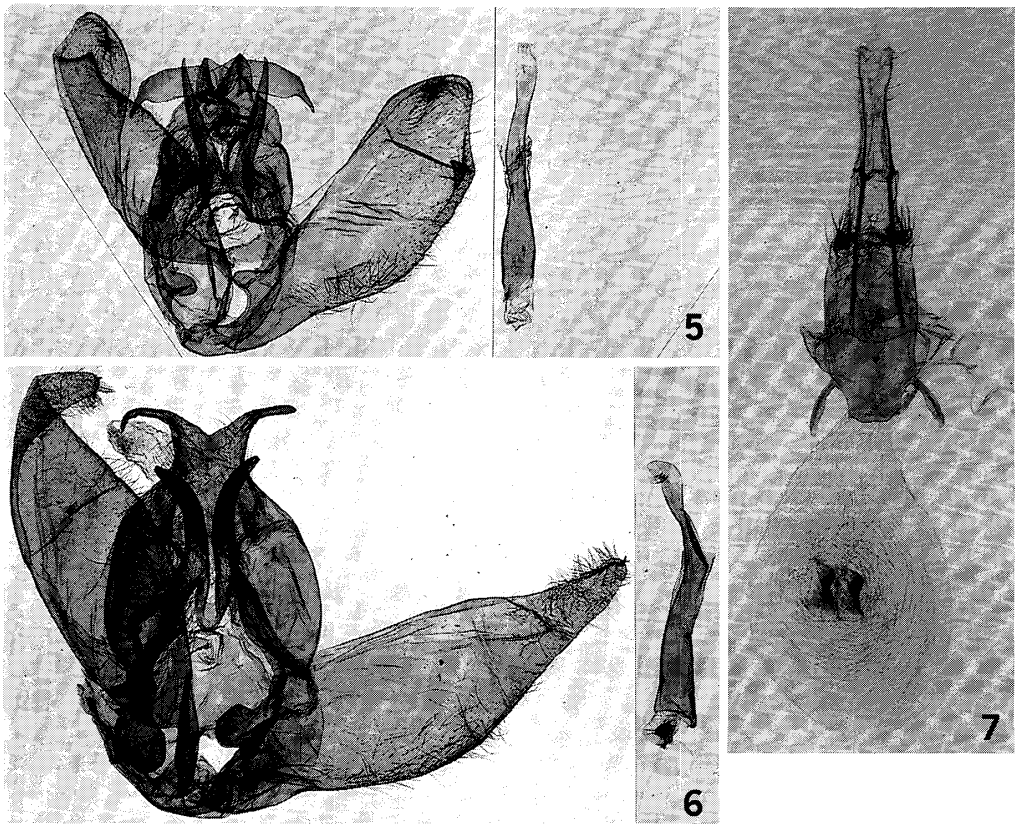

Figs 5-7. Male and female genitalia of *Achelura* spp. 5. *A. sanguifasciata* sp. n., ♂, paratype. 6. *A. bifasciata* (Hope), ♂, Nepal. 7. *A. sanguifasciata* sp. n., ♀, paratype.

rax and abdomen black, distal portion of abdomen yellowish. Wing shape and maculation very similar to those of *A. bifasciata* (Fig. 2). On the upperside of forewing, ground colour greyish white, slightly hyaline, blackish shade of scales along black veins; basal two fasciae vivid red, instead of orange yellow in *bifasciata*, edged with black lines, the inner fascia slenderer, edged externally with broader black band. On the upperside of hindwing, ground colour darker than in the forewing; blackish brown shade on veins, broadened and fused in terminal portion, forming a broad dark terminal band; veins 6 and 5 anastomosing at near discocellulars, while in *bifasciata* they come very close but never anastomose.

Female (Fig. 3). Length of forewing: 45 mm. Each pecten of antennae much shorter than in male. Ground colour of wings more tinged with cream. Basal red fasciae of forewing slenderer than in *bifasciata* (Fig. 4).

Male genitalia (Fig. 5). Similar to those of *A. bifasciata* (Fig. 6). Bifurcate uncus more flattened; valva with rounded apex, angulate at basal 3/4 ventrally, while in *bifasciata* it is smoothly narrowed towards pointed apex.

Female genitalia (Fig. 7). Very similar to those of *A. bifasciata* (see Owada, 1992, Fig. 23), but smaller; apophyses anteriores shorter and broader, sclerotized intersegmental membrane between 7th and 8th tergites narrower.

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Holotype. ♂, Taiwan, Nantou, Mt. Howangshan, 2. x. 1992, C. Lou leg., genit. slide no. NSMT 2282 ♂, in National Science Museum, Tokyo. Paratypes. 3 ♂ 1 ♀, same locality, 15. XI. 1992, genit. slide no. NSMT 2283 ♀, 35 ♂, same locality, 28. ix. 1993, in collections of NSMT, K. Horie and Y. Kishida.

Notes. According to Mr Lou, the habitat of this species is restricted between 1,300-1,500 m in altitude on Mt. Howangshan, and the moths occur from October to November. He observed massflight of this moth which is similar to those of *A. bifasciata* at Kathmandu (Owada, 1992) and *Elcysma westwoodii* in Japan. As was discussed by Owada (1992), it is clear that the genera *Achelura* and *Elcysma* are closely related, so that this species may also occur a year in the autumn.

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摘　　要

台湾未記録属のマダラガの1新種 (堀江清史)

オオウスバホタルガ (新称) *Achelura bifasciata* に似たマダラガが台湾に産するという情報を得，1993年9月，台湾において鈴木亨治氏と調査・採集を行った．幸い1♂の標本を入手することができたが，あいにく道路の崩壊により採集地である合望山に入ることができず，また，発生の時期も予想していた9月中旬よりも遅かったために，自ら採集することはできなかった．しかし，生息地や発生の状況などを採集者より直接聞き取ることができた．帰国した直後に，東京で入手した標本も加えて，斑紋・交尾器につき検討した結果，従来知られていた種類とは明確に区別できるので，ここに新種として記載した．

Achelura sanguifasciata Horie, sp. n.　アカネウスバホタルガ (新称)

♂ (Fig. 1) 開張．78-82 mm．触角は黒色で両櫛歯状．頭部，胸部，腹部とも黒色．前翅表面の地色は灰白色で半透明，翅脈に沿って暗褐色の鱗粉が広がる．斑紋はオオウスバホタルガ *A. bifasciata* (Hope, 1841) (Fig. 2) に似るが，前翅基部及び中央部をはしる2条の帯はオオウスバホタルガでは橙色であるのに対し，本種は鮮紅色で，基部の紅帯はオオウスバホタルガよりも細く，その外側を縁どる黒色の帯はより広い．後翅の表面の地色は灰白色で半透明，翅脈に沿って暗褐色の鱗粉が広がり，外縁部ではこれがつながり外縁を縁どる黒い帯になる．また，オオウスバホタルガでは6脈と5脈は中室の外側で接近はするものの分離しているが，本種では6脈と5脈は中室のすぐ外側で交走する．

♀ (Fig. 3) 開張．85 mm．触角は黒色で両櫛歯状．突起は短い．前翅表面の地色は乳白色で半透明，翅脈に沿って灰褐色の鱗粉が広がる．2条の帯の特徴は雄と同様．

雄交尾器 (Fig. 5) の valva, uncus の形状にオオウスバホタルガのもの (Fig. 6) との大きな差が認め

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られる．雌交尾器は (Fig. 7) に示す通りオオウスバホタルガのもの (Owada, 1992. Fig. 23) に似るが細部は異なる．

Owada (1992) によれば，1979年9月25日にネパールのカトマンズにおいて，サクラの一種 (*Prunus* sp.) の並木道でオオウスバホタルガが発生しているのに遭遇し，その際，多数の成虫が道路沿いを飛翔し，また，サクラの葉を綴った繭より蛹や前蛹を採集したという．本種の採集者の羅錦吉氏によれば，本種も合望山の標高1,300 m-1,500 mのごく限られた地域でしか見られず，成虫の発生時期も10月-11月の短い期間で，発生の盛期にはかなりの数が飛翔している，との事であり，発生時期や一斉に多数が羽化することなど生態面でも本種はオオウスバホタルガに近縁であることがわかる．また，これらの習性は，Owada (1992) も指摘しているように，日本のウスバツバメガ *Elcysma westwoodii* (Vollenhoven, 1863) にも共通するものであり，属間の類縁関係を示すとともに，おそらく，本種も年1化，晩秋に発生する蛾であることが推測される．

(Accepted November 3, 1993)

Published by the Lepidopterological Society of Japan,
c/o Ogata Building, 2-17, Imabashi 3-chome, Chuo-ku, Osaka, 541 Japan

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